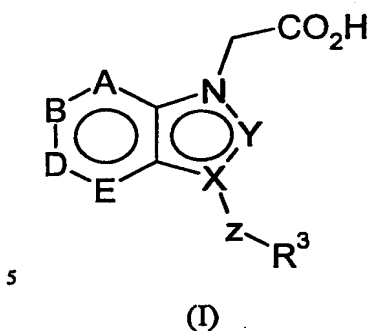


Claims

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof:



in which

- 10 each of A, B, D and E is independently C-R<sup>1</sup> or N;

Y = C-R<sup>2</sup>, N or C=O;

Z is oxygen, sulphur, a C<sub>1-6</sub>alkylene chain or a bond;

15

R<sup>1</sup> is independently selected from hydrogen, halogen, CN, nitro, S(O)<sub>x</sub>R<sup>6</sup>, OR<sup>6</sup>, SO<sub>2</sub>NR<sup>4</sup>R<sup>5</sup>, CONR<sup>4</sup>R<sup>5</sup>, NR<sup>4</sup>R<sup>5</sup>, NR<sup>7</sup>SO<sub>2</sub>R<sup>7</sup>, NR<sup>7</sup>C(O)<sub>x</sub>R<sup>7</sup>, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>1-6</sub>alkyl, aryl or heteroaryl, the latter five groups being optionally substituted by one or more substituents independently selected from 1-3 halogen atoms, -OR<sup>7</sup> and -NR<sup>4</sup>R<sup>5</sup>, S(O)<sub>x</sub>R<sup>8</sup>, C(O)NR<sup>4</sup>R<sup>5</sup>,

- 20 where x is 0, 1 or 2;

R<sup>2</sup> is C<sub>1-6</sub>alkyl which may be optionally substituted by one or more substituents independently selected from halogen atoms, aryl, -OR<sup>9</sup> and -NR<sup>10</sup>R<sup>11</sup>;

- 25 R<sup>3</sup> is an aryl or heteroaryl group each of which is optionally substituted by one or more substituents independently selected from halogen, CN, nitro, S(O)<sub>x</sub>R<sup>6</sup>, OR<sup>7</sup>, SO<sub>2</sub>NR<sup>4</sup>R<sup>5</sup>, CONR<sup>4</sup>R<sup>5</sup>, NR<sup>4</sup>R<sup>5</sup>, NR<sup>7</sup>SO<sub>2</sub>R<sup>3</sup>, NR<sup>7</sup>C(O)<sub>x</sub>R<sup>6</sup>, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>1-6</sub> alkyl, the

latter three groups being optionally substituted by one or more substituents independently selected from halogen atoms,  $-OR^6$  and  $-NR^4R^5$ , where  $x=0,1$  or  $2$ ;

$R^4$  and  $R^5$  independently represent a hydrogen atom, a  $C_{1-6}$ alkyl group, or aryl group the latter two of which may be optionally substituted by one or more substituent groups independently selected from halogen atoms, aryl,  $-OR^{12}$  and  $-NR^{13}R^{14}$ ,  $-CONR^{13}R^{14}$ ,  $-NR^{13}COR^{14}$ ,  $-SO_2NR^{13}R^{14}$ ,  $NR^{13}SO_2R^{14}$ ;

or

$R^4$  and  $R^5$  together with the nitrogen atom to which they are attached can form a 3-8 membered saturated heterocyclic ring optionally containing one or more atoms selected from O, S,  $NR^{15}$ , and itself optionally substituted by  $C_{1-3}$  alkyl, halogen;

$R^6$  represents a  $C_{1-6}$ alkyl which may be optionally substituted by one or more substituents independently selected from halogen atoms, aryl,  $-OR^9$  and  $-NR^{10}R^{11}$ .

15

each of  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ , independently represents a hydrogen atom,  $C_1-C_6$ , alkyl, an aryl or a heteroaryl group which may be optionally substituted by one or more halogen atoms, OH,  $O-C_1-C_6$ alkyl; and

20  $R^{15}$  is hydrogen,  $C_{1-4}$  alkyl,  $-COC_1-C_4$  alkyl,  $-COQC_1-C_4$ alkyl,  $Q=O$  or  $NR^6$ , provided that:

the number of nitrogen atoms within the ring ABDE is 1 or 2 when Y is  $CR^2$  and  $R^3$  cannot be phenyl when Y is  $C=O$  and X is nitrogen.

25 2. A compound according to claim 1 in which A, B, D and E are all  $C-R^1$ .

3. A compound according to claim 1 in which one of A, D or E is N and D and the others are  $C-R^1$  where  $R^1$  is hydrogen, phenyl,  $CF_3$ , CN, alkyl or halogen.

30 4. A compound according to any one of claims 1 to 3 in which Y is  $C=O$  and X is N.

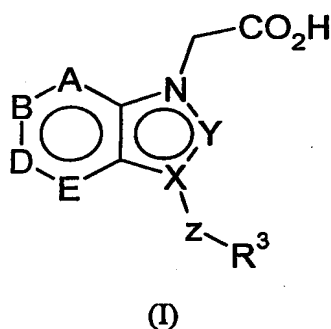
5. A compound according to claim 4 in which Z is a bond.

6. A compound according to any one of claims 1 to 3 in which Y is nitrogen or C-R<sup>2</sup> where R<sup>2</sup> is methyl.
- 5 7. A compound according to claim 6 in which X is carbon,
8. A compound according to claim 6 or 7 in which Z is sulfur, methylene or a bond.
9. A compound according to claim 1 selected from:
- 10 5-methyl-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;  
5-cyano-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;  
3-(6-fluoro-4-quinoliny)-4-(trifluoromethyl)-1*H*-indazole-1-acetic acid;  
4-iodo-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;  
3-[(4-chlorophenyl)thio]-5-iodo-1*H*-indazole-1-acetic acid;
- 15 3-(7-chloro-4-quinoliny)-2-methyl-1*H*-pyrrolo[2,3-*b*]pyridine-1-acetic acid, sodium salt;  
3-[(4-Chloro-2,4-cyclohexadien-1-yl)thio]-2,5-dimethyl-1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;  
2,5-Dimethyl-3-[[4-(methylsulfonyl)-2,4-cyclohexadien-1-yl]methyl]-1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;
- 20 2,5-Dimethyl-3-[[4-(methylsulfonyl)phenyl]thio]- 1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;  
4-Chloro-3-[(4-chlorophenyl)thio]-2-methyl-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;  
4-Chloro-2-methyl-3-[[4-(methylsulfonyl)phenyl]thio]- 1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;  
3-[(4-Chlorophenyl)thio]-2-methyl-4-phenyl-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;
- 25 2-Methyl-3-[[4-(methylsulfonyl)phenyl]thio]-4-phenyl-1*H*-pyrrolo[3,2-*c*] pyridine-1-acetic acid;  
and pharmaceutically acceptable salts thereof.
10. A compound of formula (I) according to any one of claims 1 to 9 for use in therapy.

11. A method of treating a disease mediated by prostaglandin D2, which comprises administering to a patient a therapeutically effective amount of a compound of formula (I), or a pharmaceutically acceptable salt as defined in claims 1 to 9.

12. A method of treating according to claim 11 wherein the disease is asthma or rhinitis.

13. Use of a compound of formula (I) or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of a disease mediated by prostaglandin D2:



in which

15 each of A,B,D and E is independently C-R<sup>1</sup> or N;

Y = C-R<sup>2</sup>, N or C=O;

Z is oxygen, sulphur, a C<sub>1-6</sub>alkylene chain or a bond;

20 R<sup>1</sup> is independently selected from hydrogen, halogen, CN, nitro, S(O)<sub>x</sub>R<sup>6</sup>, OR<sup>6</sup>, SO<sub>2</sub>NR<sup>4</sup>R<sup>5</sup>, CONR<sup>4</sup>R<sup>5</sup>, NR<sup>4</sup>R<sup>5</sup>, NR<sup>7</sup>SO<sub>2</sub>R<sup>7</sup>, NR<sup>7</sup>C(O)<sub>x</sub>R<sup>7</sup>, C<sub>2</sub>-C<sub>6</sub> alkenyl, C<sub>2</sub>-C<sub>6</sub> alkynyl, C<sub>1-6</sub>alkyl, aryl or heteroaryl, the latter five groups being optionally substituted by one or more substituents independently selected from 1-3 halogen atoms, -OR<sup>7</sup> and -NR<sup>4</sup>R<sup>5</sup>, S(O)<sub>x</sub>R<sup>8</sup>, C(O)NR<sup>4</sup>R<sup>5</sup>,

25 where x is 0,1 or 2;

$R^2$  is  $C_{1-6}$ alkyl which may be optionally substituted by one or more substituents independently selected from halogen atoms, aryl,  $-OR^9$  and  $-NR^{10}R^{11}$ ;

$R^3$  is an aryl or heteroaryl group each of which is optionally substituted by one or more substituents independently selected from halogen, CN, nitro,  $S(O)_xR^6$ ,  $OR^7$ ,  $SO_2NR^4R^5$ ,  $CONR^4R^5$ ,  $NR^4R^5$ ,  $NR^7SO_2R^3$ ,  $NR^7C(O)_xR^6$ ,  $C_2-C_6$  alkenyl,  $C_2-C_6$  alkynyl,  $C_{1-6}$  alkyl, the latter three groups being optionally substituted by one or more substituents independently selected from halogen atoms,  $-OR^6$  and  $-NR^4R^5$ , where  $x=0,1$  or  $2$ ;

$R^4$  and  $R^5$  independently represent a hydrogen atom, a  $C_{1-6}$ alkyl group, or aryl group the latter two of which may be optionally substituted by one or more substituent groups independently selected from halogen atoms, aryl,  $-OR^{12}$  and  $-NR^{13}R^{14}$ ,  $-CONR^{13}R^{14}$ ,  $-NR^{13}COR^{14}$ ,  $SO_2NR^{13}R^{14}$ ,  $NR^{13}SO_2R^{14}$ ;

or

$R^4$  and  $R^5$  together with the nitrogen atom to which they are attached can form a 3-8 membered saturated heterocyclic ring optionally containing one or more atoms selected from O, S,  $NR^{15}$ , and itself optionally substituted by  $C_{1-3}$  alkyl, halogen;

$R^6$  represents a  $C_{1-6}$ alkyl which may be optionally substituted by one or more substituents independently selected from halogen atoms, aryl,  $-OR^9$  and  $-NR^{10}R^{11}$ .

each of  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ ,  $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ , independently represents a hydrogen atom,  $C_{1-6}$ alkyl, an aryl or a heteroaryl group which may be optionally substituted by one or more halogen atoms, OH,  $O-C_{1-6}$ alkyl; and

$R^{15}$  is hydrogen,  $C_{1-4}$  alkyl,  $-COC_{1-4}$  alkyl,  $-COQC_{1-4}$ alkyl,  $Q=O$  or  $NR^6$ ,

provided that:

the number of nitrogen atoms within the ring ABDE is 1 or 2 when Y is  $CR^2$  and

$R^3$  cannot be phenyl when Y is  $C=O$  and X is nitrogen.

14. Use according to claim 13 wherein the disease is asthma or rhinitis.

15. Use according to claim 13 or 14 wherein the compound is selected from:

5-methyl-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;

5-cyano-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;

3-(6-fluoro-4-quinoliny)-4-(trifluoromethyl)-1*H*-indazole-1-acetic acid;

5 4-iodo-3-(4-quinoliny)-1*H*-indazole-1-acetic acid;

3-[(4-chlorophenyl)thio]-5-iodo-1*H*-indazole-1-acetic acid;

3-(7-chloro-4-quinoliny)-2-methyl-1*H*-pyrrolo[2,3-*b*]pyridine-1-acetic acid, sodium salt;

3-[(4-Chloro-2,4-cyclohexadien-1-yl)thio]-2,5-dimethyl-1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;

10 2,5-Dimethyl-3-[[4-(methylsulfonyl)-2,4-cyclohexadien-1-yl]methyl]-1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;

2,5-Dimethyl-3-[[4-(methylsulfonyl)phenyl]thio]-1*H*-pyrrolo[3,2-*b*]pyridine-1-acetic acid;

4-Chloro-3-[(4-chlorophenyl)thio]-2-methyl-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;

4-Chloro-2-methyl-3-[[4-(methylsulfonyl)phenyl]thio]-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;

15 3-[(4-Chlorophenyl)thio]-2-methyl-4-phenyl-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;

2-Methyl-3-[[4-(methylsulfonyl)phenyl]thio]-4-phenyl-1*H*-pyrrolo[3,2-*c*]pyridine-1-acetic acid;

and pharmaceutically acceptable salts thereof.